Pertintent Data - Benbrook Dam & Lake

(See Exhibit A for Supplementary Data)

LOCATION: R.M. 15.0 on Clear Fork of Trinity River, 10 miles southwest of Fort Worth, TX, in Tarrant County.

DRAINAGE AREA:	429 square miles
One inch of runoff	22,880 acre-feet

DAM:

Type:	Rolled earth fill
Length (including spillway):	9,130 feet
Maximum Height:	130 feet
Top Width:	20 feet

SPILLWAY:

Crest Elev:	724.0 feet NGVD
Notch Crest Elev:	710.0 feet NGVD
Length (including 100' notch):	500 feet
Type:	Uncontrolled Ogee

LAND ACQUISITION:

	Guide Contour	Area (Acres)
Fee Simple	697.1 feet NGVD	11,247
Easement	741.0 feet NGVD	619
Total		11,866

INFLOW:

Spillway design flood peak, cfs	290,100
Spillway design flood volume, ac-ft	483,800
Spillway design flood runoff, inches	21.05

OUTFLOW:

Total routed peak outflow, cfs	172,000
Spillway, cfs	172,000
Outlet works, cfs	0

OUTFLOW WORKS:

Type:	1 conduit with 2 gated inlets
Dimension:	13 feet diameter
Invert Elev:	622.0 feet NGVD
Control:	2-6.5'x 13' broome-type gates

LOW-FLOW OUTLETS:

Type:	Two-30 inche diameter steel pipes, paralleling flood control conduit.
Invert Elev:	658.0, 678.0, 684.0 feet NGVD.

DEPENDABLE YEILD: 10.0 cfs or 6.5 MGD, based on critical dry period from 1951-1957 and 50 years of sediment.

Feature	Elev Feet (NGVD)	Reservoir Area (acres)	Reservoir Capacity Accumulative (ac-ft)	Runoff (inches)	Reservoir Capacity Incremental (ac-ft)	Spillway & Notch Capacity (cfs)	Outlet Works Capacity (cfs) 1 Int	Outlet Works Capacity (cfs) 2 Int	Low Flow Outlets Capacity (cfs) 1 Int	Low Flow Outlets Capacity (cfs) 2 Int
Top of Dam	747.0									
Max. Design Water Surface	741.0	10,300	410,000	17.92		172,000	6,400	8,000		
Spillway Crest	724.0	7,630	258,600	11.30	170,350	17,000	5,860	7,840		
Notch Crest	710.0	5,820	164,800	7.20	76,550		5,380	7,310	130	260
Top of Conservation Pool	694.0	3,770	88,250	3.86	72,500		4,770	6,510	120	240
Sediment Reserve					15,750*					
Streambed	617.0									

*Estimated 50 years of sediment storage below elevation 665.0 feet NGVD.

AUTHORIZATION: River and Harbor Act approved 2 Mar 45 (PL 79-14) (HD 403/77/1). Local sponsors added by PL 84-782**, PL 91-282**, PL 92-222**, and PL 97-140**.

FINAL PROJECT COST (AUG 69):

Federal:	$14,544,000.00
Non-Federal:	None*
Total:	$14,544,000.00

ANNUAL O&M COST (FY 81):

Federal:	$ 738,400
Non-Federal:	47,500
Total:	$ 785,900

COST ALLOCATION METHOD:
Use of facilities (pro rata)

LOCAL AGENCY: City of Fort Worth, TX (interim use) and Benbrook Water & Sewer Authority (interim use).

LAND ACQUISITION:

	Guide Contour ('msl)	Area (Acres)
Fee simple	697.1	11,247
Easement	741.0	619
Total		11,866

FLOOD DATA:

Date	Peak Discharge (cfs)
May 49 (1)	82,900
May 57	32,600

(1) At Benbrook near gage, D.A. 431 square miles.

Bankfull capacities below dam: Clear Fork - dam to mouth - 8,000 cfs; West Fork - Fort Worth to Dallas, 7,000 cfs. Gaging stations: Clear Fork near Aledo and near Benbrook, Reservoir Gage.

Visitation (1981): 2,078,136

Shoreline at top of conservation pool: 40 miles

STATUS OF PROJECT:
Construction started 27 May 49. Dam completed Dec 50. Deliberate impoundment began 29 Sep 52. The project is complete and operational.

*NON-FEDERAL PARTICIPATION AND LOCAL COOPERATION:
These public laws authorize the Corps to negotiate water supply storage contracts with the following entities for use of navigation storage as interim use water supply storage until such time as it is needed for navigation purposes: City of Fort Worth, Benbrook Water and Sewer Authority (BWSA), City of Arlington, Tarrant County Water Improvement District No. 1, City of Granbury and City of Weatherford, respectively.

A water supply storage contract with the City of Fort Worth was approved on 12 Aug 69 for interim use of 10.0 percent (7,250 ac-ft) of the navigation storage between elevations 694.0 and 665.0 ft msl. The City of Fort Worth will pay $346,000, in addition to their share of the annual O&M cost, for this interim use storage space.

Water supply storage contracts with the Benbrook Water and Sewer Authority were approved on 14 Feb 72 and 16 Aug 79 for interim use of 22.7 percent (16,458 ac-ft) of the navigation storage between same elevations. BWSA will pay $703,800, in addition to their share of the annual O&M cost, for this interim use storage space.

REMARKS:

Dependable yield***: 10.0 cfs or 6.5 MGD

***Based on critical dry period from 1951-1957 and 50 years of sedimentation.